STATE OF CALIFORNIA — CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

PETE WILSON, *Governor*

DEPARTMENT OF TOXIC SUBSTANCES CONTROL
1011 N. GRANDVIEW AVENUE
GLENDALE, CA 91201
(818) 551-2800

April 28, 1995

CERTIFIED MAIL **Return Receipt Requested**
Z 778 891 742

Mr. Jim Ennis
Dico Oil Corporation
2898 Gundry Avenue
Signal Hill, CA 90806

Dear Mr. Ennis:

COMMENTS FOR FACILITY INVESTIGATION WORKPLANS FOR DICO OIL CORPORATION, 1845 EAST WILLOW STREET, SIGNAL HILL, CALIFORNIA, EPA I.D. NUMBER CAD 980 737 076

This formalizes the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) comments regarding the Limited Site Investigation Workplan dated February 1995 and the Soil Gas Investigation Workplan dated February 1995. These Workplans were prepared and submitted by Jack K. Bryant Engineers of Torrance, California.

Enclosed please find the comments on these workplans prepared by the DTSC. Please submit a response to the comments where appropriate. Please modify and organize the revised workplans to include missing and inadequate information. The revised workplans should be submitted to the DTSC within thirty days of receiving this letter.

Should you have any questions regarding the submittal of the revised workplans, please contact me at (818) 551-2922 or Yvonne Sanchez of my staff at (818) 551-2870.

Sincerely,

Allan Plaza

Allan Plaza, P.E.
Unit Chief
Facility Permitting Branch

Enclosure

cc: See next page

cc: Mr. Richard Moneymaker
700 S. Flower Street, Suite 2102
Los Angeles, California 90017

Mr. Scott Charney
Assistant Planner
City of Signal Hill
2175 Cherry Avenue
Signal Hill, California 90806

bcc: Ms. Antoinette Cordero
Attorney Generals Office
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Mr. Robert Kou
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Region 3
1011 North Grandview Avenue
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Mr. Craig Christmann
Department of Toxic Substances Control
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Ms. Mary Blevins (H-3-2)
U.S. EPA, Region IX
75 Hawthorne Street
San Francisco, California 94105

STATE OF CALIFORNIA — CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
PETE WILSON, Governor

DEPARTMENT OF TOXIC SUBSTANCES CONTROL
1011 N. GRANDVIEW AVENUE
GLENDALE, CA 91201
(818) 551-2800

DATE: March 20, 1995

SUBJECT: COMMENTS FOR LIMITED SITE INVESTIGATION WORK PLAN, PREPARED BY JACK K. BRYANT ENGINEERS FOR DICO OIL CORPORATION, SIGNAL HILL, CALIFORNIA

SECTION 1.0 INTRODUCTION:

Section 1.1

1. The workplan should state that the objective is to fully characterize the location of the tank farm.

2. The workplan should state there ar two residences adjacent to the site.

3. Include a detail description of Dico's current operations including types of waste currently accepted, treatment and storage capacity.

4. Include a discussion on constituents found to be present at the facility due to past investigations and sampling activity.

5. Provide a detailed map of the facility including all structures and areas within the facility used for hazardous waste operations.

Section 1.3

1. Include a copy of the USGS map describing topography, contours, surface water flows, etc.

2. Include a brief discussion on whether facility lies within a 100-year flood plain, climatology and depth to groundwater, if known.

Section 1.4

1. Characterization will also include sampling analysis for volatile organic compounds, semi-volatile organics and metals.

SECTION 2.0 SAMPLING PLAN

1. The single boring proposed in the workplan to be drilled to thirty-five (35) feet below ground surface (bgs) is not acceptable. Boring depth will be to 100 feet or first water (whichever is encountered first).

2. Analysis at five, ten, fifteen and twenty feet should be analyzed for all constituents. If sample results determine that certain constituents are not present then the next four nodes twenty-five, thirty, thirty-five and forty feet should be analyzed for TPH, volatiles, PCB's and metals.

SECTION 3.0 ANALYTICAL PLAN

1. At a minimum, the first five samples should be sampled for semi-volatiles. Based on the results a determination can be made if the additional samples taken at deeper depths should be analyzed for semi-volatiles.

2. Include a statement that DTSC will be obtaining split samples for all samples taken during sampling activity.

APPENDIX A: DRILLING AND SAMPLING PROTOCOL

1. Include information on the drilling company that will be utilized for this field investigation. Describe Health and Safety qualifications of personnel.

APPENDIX B: HEALTH AND SAFETY PLAN

1. Include information on Subcontractors (if applicable).

2. Describe how all employees performing work with the potential for exposure to hazardous waste shall meet the requirements of 29 CFR 1910.120 and Title 8 CCR 5192.

3. Include a physical description of the site include street boundaries, structures and equipment layout. Include proximity of structures to each other.

4. Include a list of all wastestreams processed at the facility and all materials known or suspected to have been used on site.

5. Include a list of all constituents known to be present at the site and the potential human health risk associated with contact.

6. Discuss any air, noise, cold stress and heat stress hazards which may exist and list field safety directives to address each hazard.

7. Include a detail map designating work zones for drilling and sampling activity.

8. Include methods of communication for onsite work.

9. Include a description of decontamination procedures during medical emergencies.

10. Include a list of Emergency Response personnel (Agency and Client) including phone numbers where each can be contacted.

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DEPARTMENT OF TOXIC SUBSTANCES CONTROL

1011 N. GRANDVIEW AVENUE
GLENDALE, CA 91201
(818) 551-2800

DATE: March 22, 1995

SUBJECT: COMMENTS FOR DICO OIL CORPORATION SOIL GAS INVESTIGATION WORKPLAN PREPARED BY JACK K. BRYANT ENGINEERS, FEBRUARY 1995.

1.0 INTRODUCTION

1.0 Include a description of the proximity of residences that are adjacent to the facility.

2.0 Include a copy of the USGS map used for discussion showing contours, surface water flows etc..

3.0 SAMPLING PLAN

1.0 The location of points chosen for the soil gas probes is acceptable however, an additional sampling point will be chosen within the southern most portion of the tank farm, where tanks number 4 and B were located.

5.0 PROCEDURES AND DATA VALIDATION (QA/QC)

1.0 Include a table containing Data Quality Control Limits for soil samples to include: analytes, sample preparation methods, analytical methods, spike recovery control limits, spike duplicate control limits, practical quantitation limits.

2.0 Include a detail discussion on procedures to be implemented for correction of deviations during analytical procedures.

APPENDIX B HEALTH AND SAFETY PLAN

See comments prepared by DTSC Industrial Hygienists.

HEALTH AND SAFETY PLAN REVIEW

TABLE OF DEFICIENCIES AND RECOMMENDATIONS

Site Name: DICO OIL COMPANY Reviewed by: F. Parr, IH
PCA: 06-25040 Site Code: 400322 Phase: 33

PG.	ITEM	DEFICIENCY	RECOMMENDATIONS
1	1.0	The listed citation for a written injury and illness program is incorrect. This requirement is a Cal-OSHA and not Federal OSHA requirement. The requirements for an injury and illness prevention program are contained in 8 CCR 3203. 8 CCR 3203	Include the correct citation for a written injury and illness prevention program.
1	2.0	Information included within the site background section requires modification. 1) A description of the approximate size of the site is not included. 2) A description of the anticipated duration of field activities is not included. 3) A description of the site topography is not included. 8 CCR 5192(c)(4)(A), (C) & (D)	 1) Include a description of the approximate size of the site. 2) Describe the anticipated duration of field activities. 3) Describe the topography at the site.

PG.	ITEM	DEFICIENCY	RECOMMENDATIONS
3	4.1	Information included within the chemical hazards section requires modification.	
		1) Information describing the toxicological, chemical, and physical properties of the site contaminants is not included.	1) Include missing information.
		2) The Cal-OSHA permissible exposure limit (PEL) for cobalt is 0.05 mg/m^3.	2) Include correct Cal-OSHA PEL.
		3) The type of chromium identified on site is not described.	3) Please identify the type of chromium identified on site.
		4) The Cal-OSHA PEL for lead is 0.050 mg/m^3.	4) Include the correct Cal-OSHA PEL.
		8 CCR 5192(c)(4)(H) & 5155 Table AC-1.	

PG.	ITEM	DEFICIENCY	RECOMMENDATIONS
9	4.2.2	Additional detail is required in describing safety provisions associated with electrical hazards. 1) Minimum required clearance distances associated with overhead high-voltage lines outlined in section 4.2.2 do not coincide with those outlined within 8 CCR 2946. 2) A description of protocols for identifying the location of utility installations is not included. 3) A discussion of notification requirements for Underground Services Alert (USA) is not included. 8 CCR 2946 (Provisions for Preventing Accidents Due to Proximity to Overhead Lines), Tables 1 and 2, and 8 CCR 1541(b)(1) & (2).	1) Please reconcile minimum required clearance distances outlined within this section with those listed in the referenced section. 2) Include a description of how the location of utility installations shall be determined. 3) Please describe provisions for contacting USA a minimum of two days prior to the commencement of field activities.
10	4.3	It is unclear whether excavations will be conducted or potentially entered by site personnel. 8 CCR 1541 & 341	Clearly state whether excavations shall be conducted or entered by site personnel. If excavations are to be conducted or entered by site personnel, include excavations in the task risk analysis and ensure that the need for entry permits, ground movement protection, means of egress, monitoring, etc. are thoroughly addressed.

PG.	ITEM	DEFICIENCY	RECOMMENDATIONS
10	4.3	Description of noise hazards and corresponding monitoring procedures to be employed on site requires clarification and/or modification. 8 CCR Group 15, Article 105 (Control of Noise Exposure)	An employer is obligated to quantify their employees' exposure to noise when there is a possibility of exposure to an eight-hour time-weighted average of 85 dBA. Provide personnel monitoring data from previous similar site activities or describe noise monitoring protocols to be employed on site, including a description of the instrumentation, frequency of monitoring, and corresponding action levels.
10	4.3	Additional detail is required in describing heat-related disorder monitoring protocols. 8 CCR 3203	Please provide greater detail describing monitoring protocols for heat-related disorders such as pulse monitoring or aural temperature monitoring procedures. Ensure action levels, time frames and references are included.

PG.	ITEM	DEFICIENCY	RECOMMENDATIONS
10	5.0	Information included within the air monitoring section requires modification. 1) Flame ionization detectors (FIDs) and photoionization detectors (PIDs) respond differently to airborne contaminants. 2) Organic vapor action levels require clarification. 3) A discussion of monitoring protocols for dust-bound contaminants is not included. 8 CCR 5192(h)	 1) Specify whether a PID or FID will be used to screen for the presence of volatile organic contaminants at the site. Ensure that action levels incorporate the relative response factor of the specific type of monitoring instrument. If a PID is to be used, specify what lamp voltage shall be used. 2) Please provide rationale for the selection of organic vapor action levels. Describe which contaminants were used to derive these action levels. Ensure that the relative response of the instrument of choice is factored into these action levels. Additionally, verify that the target compounds have adequate warning properties such that level C respiratory protection can be safely used. 3) Provide a description of how employee exposures to dust-bound contaminants shall be quantified. Real-time dust monitors may often be helpful to monitor for action levels based upon contaminant concentration extrapolations.
12	8.0	Protocols for performing emergency decontamination of injured or exposed personnel are not included. 8 CCR 5192(k)	Describe procedures to be followed in the event an emergency decontamination is necessary.

PG.	ITEM	DEFICIENCY	RECOMMENDATIONS
14	9.0	Discussion of training requirements for individuals responding to emergency medical situations requires additional detail. 1) Discussion of first aid certification is not included. 2) Bloodborne pathogen training is not referenced. 8 CCR 3400 and 5193	1) Include a discussion indicating how adequate first aid training shall be provided. 2) The BBP standard requires that employers whose employees have a potential to be occupationally exposed to blood or other potentially infectious materials resulting from the performance of an employee's duties be subject to the requirements of the standard. Should the SHSO be first aid/CPR trained and required to provide first aid, please discuss training requirements, an exposure control plan, and adequate PPE and decontamination procedures as they relate to the BBP standard.
14	9.0	Information included within the emergency response section requires additional detail. 1) Information pertaining to personnel roles, lines of authority and communication is not included. 2) Safe distances and places of refuge are not referenced. 3) Evacuation routes and procedures are not outlined. 8 CCR 5192(l)(2)(B), (D), & (F)	1) Describe the roles of personnel on site, their authority relative to emergency response, and how the occurrence of an emergency situation shall be communicated to site personnel. 2) Include language stating that safe distances and places of refuge shall be established prior to commencing field activities. 3) Describe evacuation procedures to be followed on site. Include language stating that emergency evacuation routes shall be established prior to commencing field activities.

PG.	ITEM	DEFICIENCY	RECOMMENDATIONS
N/A	N/A	A discussion of confined space hazards and entry procedures is not provided. 8 CCR 5192(b)(4)(B)(9) & 5157	Describe hazards associated with confined spaces and corresponding entry procedures. If confined space entry is not anticipated (i.e no excavation entry) then include language within the HASP stating this.
N/A	N/A	A description of a spill containment program is not included. 8 CCR 5192(b)(4)(B)(10) & (j)	Describe protocols to followed in the event of a spill at the job site.
N/A	N/A	A description of the minimum training requirements for site personnel is not provided. 8 CCR 5192(e)	Please outline the minimum training requirements for site personnel (i.e 40-hour, eight-hour refresher, eight-hour supervisor, etc.).
N/A	N/A	Discussion of potential radiation hazards is not included. 8 CCR 5192(c)(6)(A)	Provide background information which demonstrates radiation hazards are not a concern at this site, or discuss monitoring protocols for radiological hazards. 8 CCR 5192(c)(6)(A) requires the employer to monitor the work site for hazardous levels of ionizing radiation when the site evaluation produces information that shows the potential for ionizing radiation or when the site information is not sufficient to rule out these possible conditions.
N/A	N/A	Medical surveillance requirements are not described. 8 CCR 5192(f)	Please include a summary of medical monitoring requirements.
N/A	N/A	A description of sanitary facilities which will be available to site personnel is not included. 8 CCR 5192(n)	Please describe provisions for providing personnel with adequate potable and non-potable water and toilet facilities.

PG.	ITEM	DEFICIENCY	RECOMMENDATIONS
N/A	N/A	A discussion of how adequate lighting shall be provided during work activities is not included. 8 CCR 5192(m)	Explain how adequate lighting shall be provided during work activities. Ensure minimum illumination intensities outlined in table H-1, 8 CCR 5192(m) are provided.

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DEPARTMENT OF TOXIC SUBSTANCES CONTROL
1011 N. GRANDVIEW AVENUE
GLENDALE, CA 91201
(818) 551-2800

TO: 1. YVONNE SANCHEZ DATE: 04/21/95
2. FILE

FROM: Craig Christmann

CRAIG CHRISTMANN, ASSOCIATE ENGINEERING GEOLOGIST
GEOLOGICAL SERVICES UNIT
FACILITIES MANAGEMENT BRANCH A, REGION 3
DEPARTMENT OF TOXIC SUBSTANCES CONTROL

SUBJECT: FEBRUARY, 1995 - LIMITED SITE INVESTIGATION WORK PLAN AND SOIL GAS INVESTIGATION WORK PLAN, DICO OIL CORPORATION SITE, SIGNAL HILL - GEOLOGICAL AND HYDROGEOLOGICAL REVIEW

The two work plans, submitted by Jack K. Bryant Engineers in behalf of Dico Oil, have been reviewed by the Geological Services Unit (GSU). Although these were presented as two separate submittals, there are elements common to both plans and coordination between these plans is vitally important. Therefore, review of these plans has been combined in this memorandum.

GENERAL COMMENTS

1. The plans describe the lithologic materials underlying the site as an aquitard which severely restricts the vertical migration of contaminants. First, this designation as an aquitard is inappropriate because there is no evidence of an overlying saturated zone. Second, the description as being resistant to vertical migration is wholly unsupported, especially in light of the recent excavation work performed at the site. Based on the observations made by GSU staff, the materials encountered to a depth of approximately 15 below ground surface (bgs) at the site would be best described as fine sands, which would not bar vertical migration of contaminants from Dico's confirmed surface sources.

2. Neither of the two individual plans properly combine soil vapor elements into the deep boring program. It is imperative that deep vapor probes be installed within the annular space of a groundwater monitoring well or as a nest independently in a deep soil boring to delineate the vertical distribution of contamination.

SOIL GAS WORK PLAN

1. An additional vapor point is required to provide adequate coverage along the southern margin of the tank farm between

the former locations of Tanks 4 and B. This is the area where the most extensive contamination has so far been identified. It is also directly adjacent to the property boundary and needed, in conjunction with other points, to determine whether there is the likelihood of off-site impacts from Dico's on-site waste discharges.

2. The vertical spacing between vapor sampling points should be increased from the proposed 5 feet to approximately 10 feet, unless lithologic information provides a basis for closer spacing. This will allow for the collection of additional deeper samples as part of the proposed total of 21 to 28 samples. Suggested depths for vapor probe installation are 5, 15, 25, and 40 feet bgs. There should be no problems with data interpretation due to this change.

3. The work plan states that samples will be re-analyzed if there are variations of two to three orders of magnitude between results at adjacent sampling locations. Given the spacing of vapor points (approximately 30 feet in most cases), variations in analytical results of this magnitude could routinely be expected between points. In such cases, a sampling point should be added between the points. Re-sampling should only occur if there are extreme variations which do not fit the contaminant pattern established by other vapor sampling results and appear to be as a result of sampling or laboratory error. Excessive re-sampling would only serve to limit the number of samples actually available for definition of the lateral and vertical extent of contamination.

4. The final paragraph of Section 3.4 of the work plan states "If vapor sample analysis from any depth at any sampling location indicate non-detectable concentrations of Petroleum Hydrocarbons **or** (emphasis added) Volatile Organics, that location will be considered as "clean" and will not be sampled at a deeper zone." This must be changed to "...Petroleum Hydrocarbons **and** Volatile Organics...". Moreover, while a single point may be non-detect, this does not necessarily mean that the entire horizon will be non-detect, nor that contaminants will be absent underlying this point. Therefore, deeper sampling may still be required based on other sampling locations.

LIMITED SITE INVESTIGATION WORK PLAN

1. The work plan indicates that a single boring will be made, in the vicinity of former Tanks 4 and B, to a total depth of 35 feet bgs, and that if contaminants are detected in samples collected at the bottom of this boring, a second phase of drilling, to a depth of 60 feet bgs, will be initiated. Although it is not stated in the work plan, the implication is that if contaminants are detected at the base of the 60 foot

boring, yet another phase of work would be initiated. This approach is unwise and unacceptable for the following reasons:

a) Dico's consultant has already been informed that a deep soil boring or monitoring well along with nested vapor probes would be required.

b) The costs associated with the proposed multiple mobilizations are significant. It would make far more sense to mobilize once, collect soil samples to a depth of 100 feet or first water (whichever is encountered first), archive deeper samples for metals and PCBs (within U.S. EPA holding times), and perform overnight analysis for VOCs.

c) Given that the discharge of waste from a regulated unit has been confirmed and particularly due to the presence of PCBs, it is highly unlikely that clean-closure will be possible. Therefore, this facility will probably be required, under RCRA landfill closure, to implement vadose zone and groundwater monitoring. The failure to initiate such a program at this time, when already mobilized, will ultimately result in higher costs to Dico for the subsequently required investigation.

2. The location proposed for the single soil boring is outside of the tank farm area and quite removed from the area of known deeper contamination. While there may be limitations on the placement of this boring due to the presence of the current excavation, Dico and their consultant must propose a method for drilling and sampling the known worst-case contamination. Any results from the single proposed boring as located will only help determine the lateral limits of the zone of contamination but will provide no definitive evidence regarding the vertical extent of contamination. The GSU will not concur with any conclusions recommending no further action based on results from this proposed boring.

3. The work plan does not propose any analyses for semi-volatile organics by EPA Method 8270. Analyses by this method must be included as part of the work plan.

4. The work plan states that soil samples will be cooled to a temperature of 40° to 50° F, or 4° to 10° C. Specific actions must be taken to assure that samples are properly cooled, to 4° C.

5. VOC analyses of soil samples must be conducted in a timely manner to minimize losses due to volatilization. Samples should be analyzed no later than 7 days after collection, but preferably within 1 to 3 days. Analytical results of any samples which approach being held for 14 days after collection will be considered suspect and low estimates of the actual

concentrations present.

6. The work plan states that the single soil boring will be "properly abandoned" but does not specify the exact manner or materials to be used. An adequate description of this process must be provided, particularly if Dico and their consultant truly believe that low permeability materials underlie the site.

7. Soil samples should be collected at changes in lithology, where visual or olfactory evidence of contamination is observed, or where field screening indicates elevated VOC concentrations are present. Pre-selected depths (i.e. every 5 feet) should only be used as defaults when there are no other indicators on which to base sampling decisions.

8. The work plan proposes the use of brass sampling sleeves for the collection of soil samples. Given that samples will be analyzed for metals, the use of stainless steel sleeves would be more appropriate and should be required.

9. A revised sample analysis plan (SAP) must be submitted which fully and properly describes the proposed soil matrix and soil vapor sampling protocols. An additional element to be included in the SAP, describing the groundwater monitoring well installation and sampling protocols, must also be provided.